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| <p>MODULE The Internet of Things (IoT)</p> | <p>ECTS Credits 10</p> |
| <p>Type, and timing within the curriculum Elective, 3rd year of study</p> | <p>Language(s) of instruction Basque, Spanish, English</p> |
| <p>Skills that the student will acquire with this subject</p> <p>BASIC SKILLS:</p> <p>CB2 - Learn how to apply their knowledge to their work or vocation in a professional way and possess skills that can be demonstrated through the development and defense of arguments and through problem solving within their area of study.</p> <p>CB3 – Acquire the ability to gather and interpret relevant data (normally within their area of study) in order to make judgements that include a reflection on relevant issues of a social, scientific or ethical nature.</p> <p>CB4 – Be able to transmit information, ideas, problems and solutions to both specialized and non-specialized audiences.</p> <p>GENERAL SKILLS:</p> <p>CG8 - Creativity and innovation: Pose questions and/or propose solutions/responses that go beyond the obvious and/or routine, promoting and generating new ideas and guidelines for action, in order to achieve the proposed objectives.</p> <p>SPECIFIC SKILLS:</p> <p>CE6- Manage – from the initial search, through verification and treatment, to the final presentation – and present data and information related to the topics addressed (global digital society, all types of transformations, trends, the work environment, geopolitics, sustainability, etc.), using, for the most part, digital media and other digital tools.</p> <p>CE8- Design and develop proposals and projects in the context of the digital society – characterized by: automation, robotization, artificial intelligence, virtual reality, augmented reality, cyber-physical processes, cyborgs, etc. – identifying and evaluating the influence and/or consequences of their increasing expansion, and aiming to improve individual and group equality, equity and sustainability.</p> <p>CE10- Identify and analyze the possibilities for leisure or free time that are available to people – based on the (new) work contexts of the digital society – in order to generate ideas and proposals that make possible not only the development of people’s most characteristic aspects but also participation and involvement in activities that promote local and global equality, equity and sustainability.</p> | |

CE11- Identify and analyze the opportunities and needs associated with working with robots by evaluating new work situations and conditions that arise, in order to develop those opportunities and needs to their highest potential as well as to highlight and strengthen those human aspects that allow personal development.

Learning outcomes the student will acquire with this subject

- Identify the IoT (technologies of things) that has/have the best socioeconomic and environmental impact at the local, national and international levels in order to promote new value proposals from the standpoint of creativity.
- Analyze the cultural and leisure needs of society in order to provide guidelines for action and technological solutions that meet those needs.
- Study the hybridization between humans and robots in order to propose guidelines for behavioral relations that promote proper coexistence and predict future conflicts.
- Pose pertinent questions from a critical perspective in order to promote equity and sustainable development.
- Prototype an innovative and scalable IoT (technologies of things) to improve the social and economic conditions of citizens.

Teaching-learning methodology and its relationship to the skills the student must acquire

ME3. Case analysis
ME6. Project-based learning
ME8. Action research

Training activities

ACTIVITY-HOURS-FORMAT (% IN-PERSON)

In-person activities (75 hours, 30%):

- AP5. Workshops aimed at acquiring skills, 15 hours.
- AP8. Critical analysis of real projects, 15 hours.
- AP14. Real visits/experiences, 15 hours.
- AP16. Case studies, 15 hours.
- AP19. Problem-focused study and work, 15 hours.

Non-in-person activities (175 hours, 70%):

- ANP1. Autonomous study and work, 75 hours
- ANP2. Group study and work, 100 hours

Skills acquisition assessment

EVALUATION CATEGORIES AND WEIGHTS

EV1. Group work: 30%

EV3. Exhibitions and presentations (storytelling presentation): 50%

EV7. Active participation in training activities: 20%

Summary of course content

- Introduction to the internet of things (IoT): Smart cities, social and environmental applications of the IoT, future prospects of the IoT.
- Specific approaches for IoT prototyping: programming, Artificial Intelligence, Big Data.
- Analysis of leisure in the digital society: individualization and new communities, influence of technology in leisure, function of the IoT for social challenges and needs.
- Study of human-robot hybridization: history and milestones, codependencies, the role of robots in the digital society.
- IoT prototyping.